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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,027	11/21/2001	Nobuo Yamasaki	216349US2	9844
22850	7590	11/03/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			LIU, MING HUN	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

9/3

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/989,027	YAMASAKI, NOBUO	
	Examiner	Art Unit	
	Ming-Hun Liu	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____                                                 |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____                                                              | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,636,194 to Ishii in view of US Patent 6,522,319 to Yamazaki.

In reference to claims 1, 7, 10, 11, 12, and 17, Ishii teaches an invention that is similar to the one being claimed. Figures 1 and 2 shows several critical components of Ishii's invention that anticipates the claimed invention. As shown in the figures, Ishii teaches a plurality of data lines and scan lines (115 and 110 respectively) and a plurality of pixels disposed at their intersection (item 105). Ishii's invention also includes a plurality of pixel switching element that conduct the data line information according to the scan (item 109). Ishii includes data driver (114) and scan driver (201) for controlling the write of the graphic data. The crux of the similarity behind the two inventions lies in memory device driver (item 102) and power source voltage control circuit (item 104). The memory device driver (102) controls the write of the data held in memory when the display switch is in (column 6, lines 14-25) second display mode. The power source voltage control circuit (104) is used for stopping the power source voltage during the second display (column 6, lines 25-30).

The difference that lines between Ishii's invention and the claimed invention is most apparent in the power source voltage generation and control. Ishii teaches

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switching the conduction modes from on to off, but does not teach suspending the generation of the actual power source. As one skilled in the art understands, scan and data circuits inherently must be powered. Therefore, the inventions deviate not on whether the circuits should be powered but how the power is controlled.

Yamazaki teaches an invention similar to Ishii's. Yamazaki teaches a LCD that achieves power conservation through a hold mode display period. Yamazaki teaches on column 7, lines 34-43 that the voltage source is suspended during the second display mode to achieve better power conservation.

Ishii's invention can be modified to resemble the claimed invention by adding Yamazaki's power source. In fact Yamazaki, on column 16, line 3 teaches that pixel with memory displays (much like the one discussed in Ishii) are highly applicable to this power saving scheme. It would have been obvious to include Yamazaki's power source into Ishii's invention in order to achieve more efficient power conservation, suspending power expenditure during times where new data does not need to be supplied to the pixels.

In reference to claim 2-5, it can be seen from figure 15 that the power source is connected to both the scan and data drivers and switches off during "the period of partial display state" (column 7, line 37).

In reference to claims 6 and 16, it is Yamazaki teaches a DC/DC converter, more specifically a charge pump.

In reference to claims 8, 9, 18 and 19, it can be seen from figure 2 of Ishii that the pixel memory implemented by Ishii is SRAM with inverts 103-1 and 103-1 with a switch 102.

In reference to claims 13 and 14, Yamazaki in figure 2 teaches a power source generator that includes boosting units (9, 10) and output smoothing capacitors. In figure 5, Yamazaki discloses the details of the control circuit where a comparator is used to determine the charge pump operations.

In reference to claim 15, controlling circuit includes an AND circuit that receives the comparison results (15) and mode switching signal. The AND circuit serves as a stop for the comparison signal to the boosting unit.

In reference to claims 20-22 and 24-26, column 6, lines 14-23 Ishii teaches the two modes where in memory mode, data is nonconducting and the information is supplied from the memory circuit. As explains in column 3, lines 5-12 since there is no need to rewrite screen display the display state is held by the memory circuit (still image display mode).

In reference to claims 23 and 27, as one skilled in the art understands the memory circuit proposed by both Ishii and the applicant is only capable of binary information. Therefore such a limitation is inherent to the design of the display circuit.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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US Patent 6,803,896 to Senda et al: Teaches power save using memory and power source conservations.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ming-Hun Liu

  
DENNIS-DOON CHOW  
PRIMARY EXAMINER